



Attorney Docket No. 0756-7247

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Shunpei YAMAZAKI et al.

Serial No. 10/756,833

Filed: January 14, 2004

For: LIQUID CRYSTAL DISPLAY DEVICE
AND MANUFACTURING METHOD
OF LIQUID CRYSTAL DISPLAY
DEVICE

) Group Art Unit: 2871

) Examiner: Lucy P. Chien

) CERTIFICATE OF MAILING

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Adel M. Stamps

RESPONSE

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Official Action mailed April 30, 2007, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on January 14, 2004; May 11, 2004; February 24, 2005; and September 25, 2006.

Claims 1-20 and 46-59 are pending in the present application, of which claims 1-4 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 1-4, 7, 9, 11, 13, and 46-59 as obvious based on the combination of U.S. Patent Application Publication No. 2002/0085143 to Kim, U.S. Patent No. 5,298,768 to Okazaki, U.S. Patent Application Publication No. 2001/0040645 to Yamazaki and U.S. Patent Application Publication No. 2001/0012089

to Shiraishi. The Applicant respectfully traverses the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Kim, Okazaki, Yamazaki '645 and Shiraishi or to combine reference teachings to achieve the claimed invention. MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Official Action has failed to carry this burden. While the Official Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be used together, it is submitted that the Official Action does not adequately set forth why one of skill in the art would combine the references to achieve the features of the present invention.

The test for obviousness is not whether the references "could have been" combined or modified as asserted in the Official Action, but rather whether the references should have been. As noted in MPEP § 2143.01, "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (emphasis in original). Thus, it is respectfully submitted that the standard set forth in the Official Action is improper to support a finding of *prima facie* obviousness.

The Official Action concedes that Kim does not teach "a first substrate, a light emitting device formed in the concave portion of the first substrate (also formed over the first substrate) a resin covering the light emitting device and ... the use of an adhesive" (page 3, Paper No. 20070424). The Official Action relies on Okazaki to allegedly teach a resin and on Yamazaki '645 to allegedly teach an adhesive. The Official Action asserts that it would have been obvious to modify Kim's display to include the resin of Okazaki and the adhesive of Yamazaki '645 (pages 3-4, Id.). The Applicant respectfully disagrees and traverses the above assertions in the Official Action.

The Official Action has not shown a discussion in the prior art which makes clear how or why the resin of Okazaki and the adhesive of Yamazaki '645 would have been incorporated into the device shown in Figure 2 of Kim without destroying the functionality and intended purpose of Kim or that the functionality of Okazaki and Yamazaki '645 are more desirable than the intended purpose of Kim. Specifically, Kim clearly shows that "advantageous effects of the present invention include overcoming the easy breakability of conventional LCD by employing an organic light emitting diode as a backlight of the LCD to reduce the thickness thereof, and using an organic light element as a substitute for a backlight, thereby reducing weight, thickness, length and size of the LCD ..." (paragraph [0022]).

In Kim, a light emitting diode is formed over an outer surface of a substrate 201a, while a thin film transistor 208 is formed over the upper surface of the substrate 201a

after the light emitting diode is formed (paragraphs [0029]-[0040], Figures 3A-3D). The Official Action has not demonstrated why Kim's display requires the resin of Okazaki and the adhesive of Yamazaki '645, particularly in a situation where such modification would apparently eliminate the advantageous effect of Kim. That is, if the resin and the adhesive were incorporated between a first insulating layer 202a and an anode 203, the advantageous effect of Kim, that is, reduction of the weight and thickness of a display, would be impaired.

Furthermore, the Official Action does not appear to address the detailed arguments set forth by the Applicant in the *Amendment* filed February 21, 2007 (received by OIPE February 23, 2007), at page 9, line 22, to page 10, line 22. Please incorporate these arguments into the present *Response*. In summary, the Official Action has merely set forth a series of features from various references, but has not explained how these features could have been combined into Kim. For example, the Official Action has not explained (1) why Kim's protective layer 207 would have necessarily been made of plastic, (2) why one would have used Okazaki's backlight to replace Kim's organic film layer 204, (3) why Kim's light-emitting device would be formed over the first substrate 101a, or (4) why one should have formed the first insulating layer 202 of Kim over the first substrate 201a.

Shiraishi does not cure the deficiencies in the alleged motivation to combine Kim, Okazaki and Yamazaki '645. The Official Action relies on Shiraishi to allegedly teach a first substrate larger than a second substrate (page 3, Paper No. 20070424). Shiraishi does not show why it would have been obvious to combine Kim, Okazaki and Yamazaki '645 in light of the arguments presented at pages 3-4 supra.

Therefore, the Applicant respectfully submits that the Official Action has not provided a proper or sufficient suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Kim, Okazaki, Yamazaki '645 and Shiraishi or to combine reference teachings to achieve the claimed invention.

In the present application, it is respectfully submitted that the prior art of record, either alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

The Official Action rejects dependent claims 5, 6, 8, 10, 12 and 14-20 as obvious based on the combination of Kim, Okazaki, Yamazaki '645, Shiraishi and one of the following: U.S. Patent No. 4,648,691 to Oguchi, U.S. Patent Application Publication No. 2002/0041348 to Yokoyama, U.S. Patent Application Publication No. 2002/0130985 to Weindorf, U.S. Patent No. 6,331,381 to Chaudhari, U.S. Patent No. 5,781,263 to Kawagoe, U.S. Patent No. 4,202,607 to Washizuka and U.S. Patent No. 4,536,014 to Boutaleb.

Oguchi, Yokoyama, Weindorf, Chaudhari, Kawagoe, Washizuka and Boutaleb do not cure the deficiencies in the alleged motivation to combine Kim, Okazaki, Yamazaki '645 and Shiraishi. The Official Action relies on Oguchi, Yokoyama, Weindorf, Chaudhari, Kawagoe, Washizuka and Boutaleb to allegedly teach the features of dependent claims 5, 6, 8, 10, 12 and 14-20. Oguchi, Yokoyama, Weindorf, Chaudhari, Kawagoe, Washizuka and Boutaleb do not show why it would have been obvious to combine Kim, Okazaki, Yamazaki '645 and Shiraishi in light of the arguments presented at pages 3-4 supra.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Robert L. Pilaud", written over a horizontal line.

Robert L. Pilaud
Reg. No. 53,470

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789